BOTANY.—*New plants mainly from western South America.*[1] ELLSWORTH P. KILLIP, U. S. National Museum.

The representation of plants from western South America in the United States National Museum has increased substantially in recent years as a result of extensive collecting by local South American botanists and by members of scientific expeditions from the United States to South America. In the course of studying this material several new species have been discovered, descriptions of which are here published in order that the names may be available in the preparation of reports upon these collections. A single species from eastern Argentina is included.

Anthurium antrophyoides Killip, sp. nov.

Plant terrestrial; caudex 4 to 6 cm. long, 1 to 2 cm. thick; petioles 14 to 18 cm. long, canaliculate above, geniculate at base; leaves rhombic-ovate-lanceolate, 17 to 18 cm. long, 9 to 10 cm. wide, with a triangular long-acuminate apex, abruptly cuneate-narrowed to petiole, suboblique, coriaceous, bright green, minutely and densely whitish-punctate above, glabrous, the nerves and veins prominent, the basal nerves 4 to a side, the outermost nerve reaching to within 0.3 mm. of the margin in the lower half, extending to base of acuminate apex and anastomosing with second basal nerve, the second nerve reaching to about 1.5 mm. from the margin just above middle, and extending to apex, the 2 inner basal nerves and the lateral nerves (about 8 to a side) anastomosing with the second nerve above middle, peduncle about 12 cm. long; spathe oval, 5 cm. long, 3 cm. wide, rounded at apex and abruptly caudate-acuminate (acumen 1 cm. long), white; stipe 1 cm. long; spadix 3 cm. long, 0.5 cm. thick; perianth segments equal, about 0.8 mm. long, 1 mm. wide.

Type in the U. S. National Herbarium, no. 1,143,244, collected along Río Caballete, near junction with Río Dagua at Santa Rosa, Department El Valle, Colombia, altitude 200 meters, September 22, 1922, by E. P. Killip (no. 11555).

According to Engler's revision of *Anthurium* in Das Pflanzenreich this species apparently comes nearest *A. weberbaueri*, the venation and general shape of the leaves being quite similar. The leaves of *A. antrophyoides*, however, are acute at base, not obtuse; the spathe is proportionately much broader; the peduncles are shorter than the leaves, while in *A. weberbaueri* they exceed the leaves, and the flowers are smaller. Comparison of the type specimen with type material of *A. weberbaueri* at Berlin has been made by the writer.

The leaves of *A. antrophyoides* bear a very close resemblance to the fronds of the tropical African fern *Antrophyum mannianum*.

[1] Published by permission of the Secretary of the Smithsonian Institution. Received October 11, 1926.

Anthericum herrerae Killip, sp. nov.

Plant about 30 cm. high, glabrous except at leaf margins; leaves basal, linear, 10 to 20 cm. long, 0.8 to 1 cm. wide, conduplicate, often falcate, acute, 25 to 30-nerved, densely ciliolate, membranous; stem terete, naked or bearing a single bract-like leaf in upper third, the leaf linear-lanceolate, 2 to 4 cm. long, 0.5 to 0.7 cm. wide, subconduplicate; raceme simple or few-branched, bracteate, the lower bracts lanceolate, up to 2.5 cm. long, the upper ovate-deltoid, 0.5 to 1 cm. long; pedicels ascending, about 5 mm. long, articulate just above middle; perianth yellowish-white, the segments narrowly oblanceolate, about 1 cm. long, 0.2 to 0.3 cm. wide, obtuse, 3-nerved; filaments about 5 mm. long; anthers linear, 3 mm. long; ovary oblong, depressed at apex, the ovules 5 or 6 to a cell; style filiform, about 6 mm. long.

Type in the U. S. National Herbarium, no. 1,281,329, collected at Hacienda Churú, Province of Paucartambo, Peru, altitude 3,500 meters, January, 1926, by F. L. Herrera (no. 1012a).

This plant evidently is nearest *A. sprengelii* Rusby (*A. ciliatum* (H. B. K.) Spreng., not *A. ciliatum* L. f.), a species with oblong perianth segments and much longer filaments.

Brodiaea viridior Killip, sp. nov.

Bulb globose, about 1 cm. in diameter; leaves 3 or 4, narrowly linear, 25 to 35 cm. long, 0.5 to 1.2 cm. wide, subcarnose, nearly flat; scape erect, 20 to 30 cm. high, 1 or 2-flowered; spathe bivalved, the valves linear, 1.5 to 2.5 cm. long, connate at base, about 10-nerved, white; pedicels 2 to 3 cm. long, slender, subarticulate at apex; perianth tube cylindric, 8 to 12 mm. long, about 6 mm. wide, the segments oblong-lanceolate, 15 to 20 mm. long, 4 to 4.5 mm. wide, widest at middle, tapering to a subcaudate apex, white, green along the single conspicuous nerve and in upper third; stamens in 2 series, borne at throat of tube, the filaments filiform, 3 to 5 mm. long; style 9 to 10 mm. long; ovary sessile.

Type in the U. S. National Herbarium, no. 704305, collected in the vicinity of General Roca, Río Negro valley, Argentina, altitude 250 to 360 meters, September 28, 1914, by Walter Fischer (no. 122).

In Baker's key[2] to this group of species *B. viridior* would come nearest *Brodiaea* (*Milla*, of Baker) *poeppigiana*, a Chilean plant with lilac flowers having shorter, merely acute segments.

Zephyranthes parvula Killip, sp. nov.

Bulb globose, 1 to 1.5 cm. in diameter, the neck 1 to 2 cm. long; leaves 2 to 4, narrowly linear, 2 to 3 cm. long, 1 to 1.5 mm. wide, acutish; peduncles about 1.5 cm. long; spathe 1.5 to 3 cm. long, closely enveloping the flower tube, bifid in upper quarter; ovary sessile; flower tube narrowly funnel-shaped, about 1 mm. wide at base, 3 mm. wide at throat, 1.5 to 2 cm. long, whitish in lower half, deep pink in upper, the segments oblong, subequal to tube, 5 to 7 mm. wide, rounded at apex but usually with a minute tip, deep pink at center, pale toward margin, purplish-veined; stamens inserted just

[2] Journ. Linn. Soc. 11: 383. 1871.

above middle of tube, the filaments 6 to 8 mm. long, exserted about 4 mm. beyond throat of tube but extending not beyond lower third of segments, the anthers linear, about 2.5 mm. long; styles 2 to 2.5 cm. long, the stigmas capitate; fruit broadly ovoid, 4 to 5 mm. long; seeds about 2 mm. long, black.

Type in the U. S. National Herbarium, no. 1,233,250, collected near city of Cuzco, Peru, altitude 3,500 meters, October, 1925, by F. L. Herrera (no. 822). A specimen collected by Casimir Watkins in 1916 also belong to this species.

In Baker's revision[3] of *Zephyranthes* this species would come nearest *Z. albicans* and *Z. boliviensis*, the only species of the subgenus *Pyrolirion* with light-colored flowers. It is a much smaller plant than either of these, and the stigmas are capitate, not trifid.

The local name is given as *pulla-pulla*.

Boerhaavia verbenacea Killip, sp. nov.

Plant herbaceous, annual, erect, up to 60 cm. high or more; stems terete, somewhat viscous, glabrescent below, puberulous above, the branches stout; leaves lanceolate or narrowly oblong-lanceolate, 1.5 to 3 cm. long, 0.4 to 1 cm. wide, obtuse or acutish at apex, acute at base, subsessile (or the lower with petioles up to 1.5 cm. long), entire or slightly undulate, viscid-puberulent, black-punctate, especially beneath; inflorescence paniculate, the panicle up to 30 cm., dichotomous, the branches glabrous, longitudinally striate with black, the flowers sessile or short (not more than 1 mm.)-pediceled, in racemes 3 to 7 cm. long; bracts ovate-lanceolate, 2 to 4 mm. long, acute, mucronate, pale at margin, persistent; perianth 1.5 to 2 mm. long, puberulent; stamens 2, included; fruit broadly obovoid, 3 mm. long, 2 to 2.5 mm. wide, truncate at apex, 5-angled, the angles with conspicuous crenulate or subentire wings, the sulci rugose.

Type in the U. S. National Herbarium, no. 1,281,334, collected at Talara, Department of Paita, Peru, near sea-level, August 22, 1925, by Oscar Haught (no. 8).

This is apparently the only species of *Boerhaavia* with racemose flowers known from South America. From the seven Mexican species with a similar inflorescence *B. verbenacea* is readily distinguished by the fruit, which is nearly twice as wide and wing-angled.

Escallonia claudii Killip, sp. nov.

Shrub, essentially glabrous throughout; younger branches straight or slightly flexuous, quadrangular, sulcate, smooth, yellowish, densely leafy in upper part; leaves simple, obovate or ovate, 0.5 to 2.5 cm. long, 0.4 to 1.5 cm. wide, rounded or acute at apex, cuneate at base, finely callous-serrulate, penninerved (midnerve prominent beneath, the 5 or 6 pairs of lateral nerves less prominent), coriaceous, light green when dry, finely puberulous above; flowers solitary in the axils of the upper (floral) leaves on branches up to 8 cm. long, forming a simple raceme, the pedicels 1 to 2 mm. long, quadrangular,

[3] Amaryll., p. 30. 1888.

bibracteate; bracts linear, 2 to 3 mm. long, coriaceous; calyx obconic, 2 to 3 mm. long, 1.5 to 2 mm. wide at throat, the lobes deltoid-subulate, about 0.5 mm. long; petals linear-spatulate, 6 to 8 mm. long, about 0.8 mm. wide below, dilated to about 3 mm. toward apex, white or pink (?), erect, the apex divarcate, conspicuously purple-veined; stamens at length recurved, the filaments slightly shorter than the petals, the anthers linear, 2 to 2.5 mm. long; style 6 to 8 mm. long, the stigma capitate; ovary turbinate, sulcate.

Type in the U. S. National Herbarium, no. 1,059,295, collected at Ramón, Chile, November 25, 1920, by Brother Claude Joseph (no. 1281).

In Reiche's Flora of Chile[4] and in Engler's monograph[5] of *Escallonia* this new species would come nearest *E. carmelita* Meyen. That species, however, has elongate calyx lobes which are nearly as long as the tube, shorter anthers, and nearly terete branches.

This is one of several plants of exceptional interest represented in the large Andean collections sent the U. S. National Museum by Brother Claude Joseph.

Weinmannia caucana Killip, sp. nov.

Tree; bark of younger branches dark silvery-gray, the ends of the branches and rachis of the racemes densely ferruginous-hirsute; leaves simple, oblong or ovate-oblong, 3.5 to 7 cm. long, 2 to 3 cm. wide, acute or rounded at apex, tapering at base to a petiole 2 to 8 mm. long, coarsely serrate, penninerved (lateral nerves up to 20 pairs), subcoriaceous, dark green and sparingly hirsutulous above, slightly paler and appressed-hirsute on the midrib beneath, the floral leaves similar and smaller; racemes in pairs, 6 to 10 cm. long, the flowers densely congested in contiguous clusters, the pedicels about 3 mm. long; sepals lanceolate, 1 mm. long or less, acute; petals broadly ovate, about 0.8 mm. long, rounded and emarginate at apex, white; stamens very slender, about 3 mm. long, the anthers minute.

Type in the U. S. National Herbarium, no. 1,143,824, collected at Morelos, Cauca Valley, Department of El Cauca, Colombia, altitude 1,680 to 1,720 meters, July 13, 1922, by F. W. Pennell and E. P. Killip (no. 8306).

Related to *W. ovata* Cav. and *W. balbisiana* H. B. K. It differs from the former in having thinner leaves with different venation, denser inflorescence, and smaller flowers; from the latter, in the longer racemes and much smaller sepals, and in the shape of the leaves.

Weinmannia rollottii Killip, sp. nov.

Shrub or small tree, the young branches ferruginous-strigose; leaves simple, ovate-oblong, 1.5 to 3 cm. long, 1 to 2 cm. wide, rounded at apex, rounded or slightly cordulate at base, short (about 4 mm.)-petioled, serrate-dentate, coriaceous, penninerved (about 8 pairs of lateral nerves), reticulate-veined, glabrous or sparingly hirtellous above, hirtellous, especially on the nerves, beneath, the floral leaves smaller, ovate-spatulate, acute at base, subentire; racemes in pairs, 5 to 8 cm. long, ferruginous-strigose, the flowers in approxi-

[4] **3**: 14–32. 1902.

[5] Linnaea **36**: 532–579. 1870.

mate clusters of 4 to 6, the pedicels about 2 mm. long; sepals lanceolate, 1 to 1.5 mm. long, acute, slightly carinate, minutely pilosulous toward apex; stamens 1 mm. long; capsule lance-ovoid, 3 to 3.5 mm. long, glabrous; styles filiform, 2 to 2.5 mm. long.

Type in the U. S. National Herbarium, no. 1,067,899, collected near Páramo de Guasca, Department of Cundinamarca, Colombia, December 27, 1919, by M. A. Rollott (Brother Ariste Joseph) no. A476.

This species is related to *W. bangii* Rusby, but has thicker, smaller leaves, shorter pedicels, and shorter racemes.

Weinmannia nervosa Killip, sp. nov.

Shrub (?); younger branches hirtellous-tomentose; stipules orbicular, 2 to 2.5 mm. wide; leaves 4 to 6 cm. long, short-petioled (petiole about 5 mm. long), unequally pinnate (lateral leaflets 2 to 4 pairs), the midnerve hirtellous-tomentose; leaflets crenate-serrate with 6 to 10 serrations to a side, reticulate-veined (veins prominent above as a grayish network, inconspicuous beneath), subcoriaceous, above dark green, glabrous except for the minutely hirtellous midnerves, beneath light brown (when dry) and glabrous; terminal leaflet obovate or elliptic-ovate, 1.5 to 2.5 cm. long, 1 to 1.2 cm. wide, slightly narrowing toward the obtusish apex, cuneate at base; lateral leaflets oblong, 1 to 2 cm. long, 0.7 to 1 cm. wide, rounded at apex, obliquely cuneate at base; intrafoliar leaves semi-obovate, 7 to 8 mm. long, 1.5 to 2 mm. wide; pseudo-racemes in pairs, 6 to 7 cm. long, the rachis short-hirtellous; bracts broadly ovate, barely 0.5 mm. long, obtuse; flowers 3 to 6 in a glomerule, the glomerules verticillate on the raceme; pedicels about 2 mm. long, longer than the flowers, minutely pubescent; sepals ovate, barely 0.5 mm. long, acute, sparsely pubescent or glabrate; petals ovate, 1 mm. long, obtuse; stamens about 1.5 mm. long, styles shorter than the stamens, as long as, or slightly longer than, the ovary; ovary glabrous.

Type in the U. S. National Herbarium, no. 533,715, collected in the Santa Marta Mountains, Colombia, altitude 1,400 meters, April, "1898–1901," by H. H. Smith (no. 1743).

This specimen was distributed as *W. sorbifolia* H. B. K., a species with leaves fully twice as large. In Engler's monograph of *Weinmannia*[6] this species should come between *W. sorbifolia* and *W. lansbergiana*. From *W. glabra* L. f., another closely related species, it differs in the conspicuous venation on the upper surface of the leaflets and the longer pedicels of the flowers. The specimen was compared with the types of *W. sorbifolia* and *W. lansbergiana* at Berlin.

Geranium filipes Killip, sp. nov.

Rhizome vertical, 4 to 5 mm. thick; stems 2 or 3, all from the apex of the rhizome, slender, few-branched, erect or ascending, 10 to 15 cm. high, exceeding the basal leaves, densely subretrorse-strigillose; stipules linear-lanceolate, 5 to 7 mm. long, about 2 mm. wide, acute, ciliate, otherwise glabrous; leaves orbicular-reniform in general outline, 1 to 1.5 cm. long, 1.5 to 2 cm. wide,

[6] Linnaea **36**: 592–650. 1870.

5-lobed about to middle (lobes trilobulate at apex, rarely entire, the segments rounded, mucronulate), membranous, appressed-strigillose above, appressed-pilosulous on nerves beneath, the basal and cauline leaves similar, petiolate, the petioles 3.5 to 7 cm. long; peduncles solitary, very slender, 2 to 5 cm. long, retrorse-strigillose, 2-flowered; bracts linear, 3 to 5 mm. long, acuminate, glabrous; pedicels 4 to 6 cm. long, densely pilosulous; sepals lanceolate, 4 to 5 mm. long, 2 to 2.5 mm. wide, obtusish, conspicuously mucronulate, subtrinerved, appressed-hirsutulous, densely pilosulous on nerves; petals cuneate-obovate, 5 to 8 mm. long, about 3 mm. wide, rounded at apex, deep pink, pale proximally, the nerves whitish; stamens shorter than calyx, the filaments minutely ciliolate; anthers 1 mm. long.

Type in the U. S. National Herbarium, no. 1,281,331, collected at Hacienda, Churú, Province of Paucartambo, Peru, altitude 3,500 meters, January, 1926, by F. L. Herrera (no. 1044).

This species evidently belongs to Section 16, *Rupicola*, of Knuth's monograph of Geraniaceae.[7] The two Peruvian species of this relationship both have much more numerous, ebracteate, white flowers and non-mucronate leaf lobes.

The local name of the plant is given as *chile-chile*.

Hypseocharis bilobata Killip, sp. nov.

Root cylindric, elongate, thickened, about 20 cm. long, 1.5 to 2 cm. thick, dark purplish; petioles 0.5 to 1 cm. long, puberulous; leaves 2 to 6 cm. long, pinnate, the rachis puberulous or glabrous, the leaflets alternate or subopposite, sessile or subsessile, glabrous, the lateral oblong-orbicular, 3 to 6 mm. long, 2 to 5 mm. wide, cordulate at base, the terminal ovate-orbicular, 6 to 10 mm. long, 5 to 8 mm. wide, cordulate and oblique at base, all shallowly bilobate at apex, the sinus to 1.5 mm. deep, the lobes erect, obtuse; peduncles 1.5 to 2 cm. long, 1-flowered, slender; sepals oblong, about 4 mm. long, 3 mm. wide, obtuse; corolla ?; ovary broadly ovoid.

Type in the U. S. National Herbarium, no. 1,190,039, collected near Cuzco, Peru, altitude 3,000 to 3,600 meters, by F. L. Herrera.

The shallowly bilobate leaflets distinguish this from the six other known species of the genus. *Hypseocharis tridentata* has a general resemblance to this species, but in that the leaflets are 3-toothed and the root is not strongly thickened.

Saurauja micayensis Killip, sp. nov

Tree, the branchlets stout, smooth, glabrous or very sparingly strigose, black; leaves oblong-obovate, about 30 cm. long, 15 cm. wide, short-acuminate at apex, subrotund at base, serrulate to base (serrulations about 8 mm. apart), petiolate (petioles 4 to 5 cm. long, stout, sparsely strigose), penninerved (lateral nerves 20 to 22 pairs, the nerves and veins conspicuous beneath), coriaceous, bright green, above glabrous, beneath strigose along the sides of the midrib (hairs very stiff, tuberculate-thickened at base), finely appressed-strigillose along sides of lateral nerves, and finely appressed-strigillose on

[7] Pflanzenreich IV. 129: 144. 1912.

veins, otherwise glabrous; inflorescence paniculate, about 24 cm. long, the rachis and branches stout, black, sparingly pulverulent; bracts lanceolate, 2 to 3 mm. long, acute; flowers 1 to 1.5 cm. wide, pinkish-white, many unisexual; sepals obovate, 2.5 to 3 mm. long, 2 to 2.5 mm. wide, rounded at apex, glabrous, minutely ciliolate at margin; petals oblong, 6 to 7 mm. long, 3.5 to 4.5 mm. wide, obtuse; stamens 15 to 20, 3 mm. long, the anthers linear-oblong, nearly 2 mm. long; styles 5, 3 mm., long; ovary glabrous.

Type in the U. S. National Herbarium, no. 1,142,442, collected at La Galera, near the Micay Valley, Department of El Cauca, southwestern Colombia, altitude 1,900 to 2,000 meters, July 1, 1922, by E. P. Killip (no. 7932).

This species belongs to Buscalioni's section *Oligotrichae Scabrae*, and is probably most closely related to *S. pseudoparviflora* Busc., a plant with a less diffuse panicle and without the stiff hairs along the sides of the midrib of the leaves. These hairs are similar to those of *S. prainiana*, a species of wholly different relationship.

The particular region in which this new species was collected is one of great botanical interest. On crossing the summit of the Western Cordillera at a point nearly due west of Popayán and descending toward the Pacific, the flora takes on a markedly different aspect. Most of the genera are the same as met with in other parts of the Republic, but the species are quite different from those of the northern part of the Pacific slope or of the Cauca and Magdalena valleys. Unfortunately my schedule permitted a stay of only a day and a half in this region, though about 350 numbers were collected. It is to be hoped that the area will be more thoroughly explored in the near future. Only a small portion of this collection has been studied, but several new species and at least two new genera have already been detected.

Saurauja tambensis Killip, sp. nov.

Shrub, the tips of the branches setose-strigose, the hairs tuberculate at base; petioles very slender, 2 to 2.5 cm. long; leaves oblong-obovate, 20 to 25 cm. long, 7 to 9 cm. wide, acuminate at apex, cuneate at base, closely and sharply serrulate except at base, penninerved (lateral nerves 18 to 20 pairs), membranous, the midrib densely setose on both sides (hairs 2 to 3 mm. long, very slender, subappressed), the lateral nerves and the veins with fewer, shorter but similar hairs, the upper surface otherwise glabrous, the under surface with a few blotches of white tomentum; inflorescence about 20 cm. long (including the very slender peduncle 10 cm. long), densely white-tomentose and short-setose, few-branched, the branches about 3 cm. long, 3 or 4-flowered; flowers 1 cm. wide, white, some unisexual; sepals obovate-oblong, 4 to 5 mm. long, 4 mm. wide, rounded at apex, tomentose without, at length nearly glabrous, finely ciliolate, glabrous within; petals slightly longer than sepals, glabrous; stamens 15 to 20, 2 to 2.5 mm. long, the anthers oblong, barely 1 mm. long; styles 5, 1.5 mm. long; ovary glabrous.

Type in the U. S. National Herbariun, no. 1,196,269, collected between Portovelo (gold mine near Zaruma) and El Tambo, Province Oro, Ecuador, altitude 600 to 1,000 meters, September 2, 1923, by A. S. Hitchcock (no. 21281).

This species is nearest *S. intermedia* Busc., approaching the variety *granulosa* Busc., which has fewer (14 or 15) lateral leaf-nerves and shorter flowering branches, not clothed with the thick tomentum of *S. tambensis*.

Saurauja rhamnifolia Killip, sp. nov.

Tree or shrub, the tips of the branches slender, finely and sparingly puberulent or glabrescent, with a very few short setae slightly swollen at base; petioles slender, 1.5 to 2 cm. long, glabrous or sparsely setulose; leaves obovate or oblong-obovate, 8 to 12 cm. long, 4 to 6 cm. wide, short-acuminate or acute at apex, cuneate at base, serrate or serrulate except in lower third (teeth mucronulate), penninerved (lateral nerves 14 or 15, arcuate-ascending from midrib to margin), dark green and glabrous or slightly pulvinate above, paler and glabrous beneath except for a few subappressed setae on the midrib and lateral nerves, membranous; inflorescence about 10 cm. long (including peduncle 3 cm. long), glabrous, the flowers few, subsessile on the main rachis or in two's or three's on short (about 1.5 cm.) branches; bracts linear, 4 to 5 mm. long, obtuse; sepals suborbicular, about 5 mm. long, minutely ciliolate; petals oblong, 6 to 7 mm. long, 4 to 5 mm. wide, rounded at apex; stamens about 25, filaments 2 mm. long, the anthers linear, 3 mm. long; ovary glabrous; styles 5, slender, 4 to 5 mm. long, persistent; fruit depressed-globose, 1 cm. in diameter.

Type in the U. S. National Herbarium, no. 1,022,032, collected in the vicinity of Ambato, Ecuador, August 24–26, 1918, by J. N. Rose (no. 22377).

Saurauja rhamnifolia is related to the preceding species, differing in smaller, thicker leaves with the lateral nerves curved from their base, glabrous inflorescence, fewer and larger flowers, and much more numerous stamens, with linear, longer anthers.

Valeriana herrerae Killip, sp. nov.

Plant herbaceous, 20 to 25 cm. high; root tuberous-thickened, about 1 cm. wide, with numerous fibers; stem simple, slender, yellowish, densely pilose at nodes, glabrous or very sparingly pilosulous elsewhere; basal leaves entire, oblanceolate or spatulate, 1 to 1.5 cm. long, 0.6 to 0.8 cm. wide, obtuse, entire or undulate at margin, tapering to a slender petiole about 2.5 cm. long, dilated at base, glabrous or sparingly pilosulous; cauline leaves ovate or ovate-oblong, 0.8 to 1.2 cm. long, 0.4 to 0.5 cm. wide, obtuse at apex, acute at base, undulate-serrate, glabrous, pilosulous at lower part of margin, the petioles 0.8 to 1 cm. long, glabrous or pilosulous; inflorescence terminal and axillary, in densely flowered, trichotomous cymes in a narrow panicle, the terminal panicle about 3 cm. long; bracts linear-oblong, about 6 mm. long, 1.2 mm. wide, decreasing in size toward apex, obtusish; bracteoles linear, about 2 mm. long, 0.3 mm. wide, obtuse; corolla funnel-shaped, about 1 mm. long, 5-lobed, greenish white; anthers slightly exserted; fruit lance-oblong, about 2 mm. long, faintly 1-nerved on one face, nerveless on other, epappose.

Type in the U. S. National Herbarium, no. 1,281,330, collected at Hacienda Churú, Province of Paucartambo, Peru, altitude 3,600 meters, January, 1926, by F. L. Herrera (no. 1016).

This is a much more slender, less fleshy plant than *P. hyalinorhiza* Ruiz & Pav., its nearest relative. The cauline leaves are less deeply toothed; the cymes are more compact, and the flowers are much smaller and green, not purplish.

The local name is *atoc-atoc*.

SCIENTIFIC NOTES AND NEWS

Dr. S. C. BROOKS of the Hygienic Laboratory, U. S. Public Health Service, has resigned to become Professor of Physiology and Biochemistry and Head of the Department at Rutgers University.

Professor A. S. HITCHCOCK, of the Department of Agriculture is spending a month in Cuba studying the grasses of the island in coöperation with the Tropical Plant Research Foundation. He will return before Christmas.

The Pick and Hammer Club met at the Geological Survey on November 13. M. I. GOLDMAN described petrographic and structural features seen on excursions during and after the International Geological Congress at Madrid, and H. G. FERGUSON described the economic features. C. W. COOKE spoke on the stratigraphy of the beds bearing human remains in Florida.

The Petrologists' Club met at the home of H. G. FERGUSON on November 16. N. L. BOWEN gave some *Notes on Scottish igneous rocks*, and H. S. WASHINGTON discussed the *Petrology of St. Paul's Rocks, Atlantic Ocean.* J. W. GREIG, HERBERT INSLEY, and W. T. SCHALLER were elected members of the Steering Committee for 1927.

In recognition of the 80th birthday of Professor W. M. HOLMES, head curator of anthropology, U. S. National Museum, December 1, he was presented with a volume of personal letters from friends and colleagues in the United States and abroad. Professor Holmes came to the Smithsonian Institution as student artist in 1871.

Dr. DAVID FAIRCHILD, Foreign Seed and Plant Introduction, Bureau of Plant Industry, left New York December 9 on the steamship Conte Roosa for Gibraltar. The latter part of December he will leave Gibraltar for the west coast of Africa, where he will continue his collection and study of seeds and plants for the Bureau.

MESSRS. N. H. DARTON AND A. C. SPENCER are on leave of absence from the Geological Survey and are doing private work in Venezuela and Panama, respectively.

MISS ANNA I. JONAS has been appointed assistant geologist on the Geological Survey.

B. C. RENICK has resigned from the Geological Survey and has gone into commercial geological work.

R. C. MOORE, State Geologist of Kansas, is temporarily at the Geological Survey doing research work on petroleum accumulation for the National Research Council. Professor ANDREW C. LAWSON, president of the Geological Society of America, who has just returned from a trip around the world, is also spending a few weeks in Washington.